

CLAIMS:

1. A method of manufacturing a semiconductor device (10) which is suitable for surface mounting and which includes a semiconductor body (1) comprising an active element provided with connection regions (2) situated at the surface of the semiconductor body (1), an electrically insulating medium (3) being provided, on one of its sides, with a conductor pattern (4) which is suitable for surface mounting, and, on the other side, with the semiconductor body (1), the connection regions (2) of the active element being connected to the conductor pattern (4) by means of electrically conductive vias (5) in the insulating medium (3), characterized in that the electrically insulating medium (3) provided with the conductor pattern (4) is formed by a flexible foil (6) comprising a conductive layer (4) and an electrically insulating layer (3), which flexible foil is detachably secured to a substrate (7) on the side of the conductor pattern (4) formed in the conductive layer (4).

2. A method as claimed in claim 1, characterized in that the electrically conductive vias (5) are formed by providing the insulating layer (3) with apertures (5), as a result of which parts of the conductor pattern (4) in the conductive layer (4) are exposed, and introducing solder (8) into said apertures, as a result of which the connection regions (2) of the semiconductor body (1) are electrically connected to the conductor pattern (4).

3. A method as claimed in claim 1 or 2, characterized in that prior to the formation of the electrically conductive vias (5) and prior to the provision of the semiconductor body (1) on the flexible foil (6) that is detachably secured to the substrate (7), the flexible foil (6) is detachably secured, on the side of the insulating layer (3), to another substrate (9), after which the conductor pattern (4) is formed in the conductive layer (4), whereafter the flexible foil (6) is detachably secured, on the side of the conductive layer (4), to the substrate (7), after which the other substrate (9) is removed.

4. A method as claimed in any one of the preceding claims, characterized in that a number of semiconductor bodies (1) are simultaneously formed so as to be connected to each other, and subsequently secured, on a side opposite the connection regions (2), to an

elastic foil (11), after which they are separated by means of sawing or etching, whereafter the elastic foil (11) is stretched uniformly in all directions after which the individual semiconductor bodies (1) are provided and secured onto the flexible foil (6).

- 5 5. A method as claimed in any one of the preceding claims, characterized in that prior to the provision of the semiconductor body (1) on the flexible foil (6), a part thereof that is situated between the apertures (5) in the insulating layer (3) is provided with an electrically insulating fixing agent (12) on which the semiconductor body (1) is placed and the height of which determines the distance between the semiconductor body (1) and the flexible foil (6).

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6. A method as claimed in any one of the preceding claims, characterized in that after the provision of the semiconductor body (1) on the flexible foil (6), a liquid, electrically insulating synthetic resin (13) is provided between the semiconductor body (1) and the flexible foil (6) as well as around the semiconductor body (1), which synthetic resin is subsequently cured.

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7. A method as claimed in claim 6, characterized in that, after curing the synthetic resin (13), the semiconductor device (10) is obtained by sawing in two mutually perpendicular directions (15, 16), after which the device (10) is removed from the substrate (7).

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8. A method as claimed in any one of the preceding claims, characterized in that a solid photoresist layer (3) is used for the electrically insulating layer (3).

- 25 9. A method as claimed in any one of the preceding claims, characterized in that for the material of the electrically insulating layer (3) use is made of a polyimide, and for the material of the conductive layer (4) use is made of copper.

10. A semiconductor device (10) which can suitably be used for surface mounting and which is obtained using a method as claimed in any one of the preceding claims.

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